The Saharan Landscape

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Although this image resembles footprints in the Sahara Desert during the majestic sunset, it is actually an optical microscopic image of thin film of a conjugated polymer organic semiconductor. The presented film consists of a polymer solution in chloroform which undergoes solution coating on plasma treated silicon. Organic semiconductors are organic materials that consist of systems of a pi-conjugated core of delocalized electrons. Unlike traditional inorganic semiconductors based on silicon, these materials are compatible with low-energy solution processing and enable fabrication of flexible, low cost, bio-compatible electronics. The research devoted to organic semiconductors ultimately strives to create sensors of out the materials in hopes to detect biomolecules like DNA. Just as the sun seems to set in the image, a new day for bio-compatible sensors is rising.